



SEQUENCE LISTING

<110> Erst, Seth
Campbell, Elizabeth A.

<120> CRYSTAL OF BACTERIA CORE RNA POLYMERASE WITH RIFAMPICIN

<130> 2555-1-001

<140> UNASSIGNED

<141> 2001-03-09

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<170> PatentIn version 3.1

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<211> 1525

<212> PRT

<213> Thermus aquaticus

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<221> MISC_FEATURE

<222> (1247)..(1247)

<223> Xaa can be any amino acid.

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Lys Ile Arg Ser Trp Ser Tyr Gly Glu Val Glu Lys Pro Glu Thr Ile
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Asn Tyr Arg Thr Leu Lys Pro Glu Arg Asp Gly Leu Phe Asp Glu Arg
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Ile Phe Gly Pro Ile Lys Asp Tyr Glu Cys Ala Cys Gly Lys Tyr Lys
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Arg Gln Arg Phe Glu Gly Lys Val Cys Glu Arg Cys Gly Val Glu Val
65 70 75 80

Thr Arg Ser Ile Val Arg Arg Tyr Arg Met Gly His Ile Glu Leu Ala
85 90 95

Thr Pro Ala Ala His Ile Trp Phe Val Lys Asp Val Pro Ser Lys Ile
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Gly Thr Leu Leu Asp Leu Phe Ala Thr Glu Leu Glu Gln Val Leu Tyr
115 120 125

Phe Asn Lys Tyr Ile Val Leu Asp Pro Lys Gly Ala Val Leu Asp Gly
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Val Pro Val Glu Lys Arg Gln Leu Leu Thr Asp Glu Glu Tyr Arg Glu
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Leu Arg Tyr Gly Lys Gln Glu Thr Tyr Pro Leu Pro Ala Gly Val Asp
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 Ala Leu Val Lys Asp Gly Glu Glu Val Val Lys Gly Gln Glu Leu Ala
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 Pro Gly Val Val Ser Arg Met Asp Gly Val Gly Ser Leu Pro Leu Pro
 195 200 205
 Arg Arg Val Arg Val Asp Tyr Leu Arg Lys Glu Arg Ala Ala Leu Arg
 210 215 220
 Ile Pro Leu Ser Ala Trp Val Glu Lys Glu Pro Tyr Arg Pro Gly Glu
 225 230 235 240
 Val Leu Ala Glu Leu Ser Glu Pro Tyr Leu Phe Arg Ala Glu Glu Ser
 245 250 255
 Gly Val Val Glu Leu Lys Asp Leu Ala Glu Gly His Leu Ile Tyr Leu
 260 265 270
 Arg Gln Glu Glu Glu Val Val Ala Arg Tyr Phe Leu Pro Ala Gly Met
 275 280 285
 Thr Pro Leu Val Val Glu Gly Glu Ile Val Glu Val Gly Gln Pro Leu
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 Ala Glu Gly Lys Gly Leu Leu Arg Leu Pro Arg His Met Thr Ala Lys
 305 310 315 320
 Glu Val Glu Ala Glu Glu Glu Gly Asp Ser Val His Leu Thr Leu Phe
 325 330 335
 Leu Glu Trp Thr Glu Pro Lys Asp Tyr Lys Val Ala Pro His Met Asn
 340 345 350
 Val Ile Val Pro Glu Gly Ala Lys Val Gln Ala Gly Glu Lys Ile Val
 355 360 365
 Ala Ala Ile Asp Pro Glu Glu Glu Val Ile Ala Gln Ala Glu Gly Val
 370 375 380
 Val His Leu His Glu Pro Ala Ser Ile Leu Val Val Lys Ala Arg Val
 385 390 395 400
 Tyr Pro Phe Glu Asp Asp Val Glu Val Thr Thr Gly Asp Arg Val Ala
 405 410 415
 Pro Gly Asp Val Leu Ala Asp Gly Gly Lys Val Lys Ser Glu Ile Tyr
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 Gly Arg Val Glu Val Asp Leu Val Arg Asn Val Val Arg Val Val Glu

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Ser Tyr Asp Ile Asp Ala Arg Met Gly Ala Glu Ala Ile Gln Glu Leu 450 455 460		
Leu Lys Glu Leu Asp Leu Glu Lys Leu Glu Arg Glu Leu Leu Glu Glu 465 470 475 480		
Met Lys His Pro Ser Arg Ala Arg Arg Ala Lys Ala Arg Lys Arg Leu 485 490 495		
Glu Val Val Arg Ala Phe Leu Asp Ser Gly Asn Arg Pro Glu Trp Met 500 505 510		
Ile Leu Glu Ala Val Pro Val Leu Pro Pro Asp Leu Arg Pro Met Val 515 520 525		
Gln Val Asp Gly Gly Arg Phe Ala Thr Ser Asp Leu Asn Asp Leu Tyr 530 535 540		
Arg Arg Leu Ile Asn Arg Asn Asn Arg Leu Lys Lys Leu Leu Ala Gln 545 550 555 560		
Gly Ala Pro Glu Ile Ile Ile Arg Asn Glu Lys Arg Met Leu Gln Glu 565 570 575		
Ala Val Asp Ala Val Ile Asp Asn Gly Arg Arg Gly Ser Pro Val Thr 580 585 590		
Asn Pro Gly Ser Glu Arg Pro Leu Arg Ser Leu Thr Asp Ile Leu Ser 595 600 605		
Gly Lys Gln Gly Arg Phe Arg Gln Asn Leu Leu Gly Lys Arg Val Asp 610 615 620		
Tyr Ser Gly Arg Ser Val Ile Val Val Gly Pro Gln Leu Lys Leu His 625 630 635 640		
Gln Cys Gly Leu Pro Lys Arg Met Ala Leu Glu Leu Phe Lys Pro Phe 645 650 655		
Leu Leu Lys Lys Met Glu Glu Lys Ala Phe Ala Pro Asn Val Lys Ala 660 665 670		
Ala Arg Arg Met Leu Glu Arg Gln Arg Asp Ile Lys Asp Glu Val Trp 675 680 685		
Asp Ala Leu Glu Glu Val Ile His Gly Lys Val Val Leu Leu Asn Arg 690 695 700		
Ala Pro Thr Leu His Arg Leu Gly Ile Gln Ala Phe Gln Pro Val Leu 705 710 715 720		

Val Glu Gly Gln Ser Ile Gln Leu His Pro Leu Val Cys Glu Ala Phe
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Asn Ala Asp Phe Asp Gly Asp Gln Met Ala Val His Val Pro Leu Ser
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Ser Phe Ala Gln Ala Glu Ala Arg Ile Gln Met Leu Ser Ala His Asn
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Leu Leu Ser Pro Ala Ser Gly Glu Pro Leu Ala Lys Pro Ser Arg Asp
 770 775 780

Ile Ile Leu Gly Leu Tyr Tyr Ile Thr Gln Val Arg Lys Glu Lys Lys
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Gly Ala Gly Met Ala Phe Ala Thr Pro Glu Glu Ala Leu Ala Ala Tyr
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Glu Arg Gly Glu Val Ala Leu Asn Ala Pro Ile Val Val Ala Gly Arg
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Glu Thr Ser Val Gly Arg Leu Lys Phe Val Phe Ala Asn Pro Asp Glu
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Ala Leu Leu Ala Val Ala His Gly Leu Leu Asp Leu Gln Asp Val Val
 850 855 860

Thr Val Arg Tyr Leu Gly Arg Arg Leu Glu Thr Asn Pro Gly Arg Ile
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Leu Phe Ala Arg Ile Val Gly Glu Ala Val Gly Asp Glu Lys Val Ala
 885 890 895

Gln Glu Leu Ile Gln Met Asp Val Pro Gln Glu Lys Asn Ser Leu Lys
 900 905 910

Asp Leu Val Tyr Gln Ala Phe Leu Arg Leu Gly Met Glu Lys Thr Ala
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Arg Leu Leu Asp Ala Leu Lys Tyr Tyr Gly Phe Thr Leu Ser Thr Thr
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Ser Gly Ile Ile Thr Ile Gly Ile Asp Asp Ala Val Ile Pro Glu Glu
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Lys Gln Arg Tyr Leu Glu Glu Ala Asp Arg Lys Leu Arg Gln Ile Glu
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Gln Ala Tyr Glu Met Gly Phe Leu Thr Asp Arg Glu Arg Tyr Asp Gln
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Val Ile Gln Leu Trp Thr Glu Thr Thr Glu Lys Val Thr Gln Ala Val
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Phe Asn Asn Phe Glu Glu Asn Tyr Pro Phe Asn Pro Leu Tyr Val
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Leu Cys Gly Met Arg Gly Leu Met Gln Lys Pro Ser Gly Glu Thr
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Phe Glu Val Pro Val Arg Ser Ser Phe Arg Glu Gly Leu Thr Val
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Leu Val Asp Val Ala His Glu Ile Val Val Arg Glu Ala Asp Cys
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Phe Leu Ile Lys Ala Ala Glu Ala Gly Glu Val Arg Glu Val Pro
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Val Arg Ser Pro Leu Thr Cys Gln Thr Arg Tyr Gly Val Cys Gln
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Lys Cys Tyr Gly Tyr Asp Leu Ser Met Ala Arg Pro Val Ser Ile
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Gly Glu Ala Val Gly Val Val Ala Ala Glu Ser Ile Gly Glu Pro
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Gly Thr Gln Leu Thr Met Arg Thr Phe His Thr Gly Gly Xaa Ala
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 Asp Gly Val Val Arg Ile Glu Glu Gly Glu Asp Arg Leu Ser Val
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 Phe Val Glu Ser Glu Gly Phe Ser Lys Glu Tyr Lys Leu Pro Lys
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 Asp Ala Arg Leu Leu Val Lys Asp Gly Asp Tyr Val Glu Ala Gly
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 Gln Pro Leu Thr Arg Gly Ala Ile Asp Pro His Gln Leu Leu Glu
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 Ala Lys Gly Pro Glu Ala Val Glu Arg Tyr Leu Val Asp Glu Ile
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 Gln Lys Val Tyr Arg Ala Gln Gly Val Lys Leu His Asp Lys His
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 Ile Glu Ile Val Val Arg Gln Met Leu Lys Tyr Val Glu Val Thr
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 Asp Pro Gly Asp Ser Pro Leu Leu Glu Gly Gln Val Leu Glu Lys
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 Val Pro Val Ala Trp Lys Pro Leu Leu Met Gly Val Thr Lys Ser
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 Ala Leu Ser Thr Lys Ser Trp Leu Ser Ala Ala Ser Phe Gln Asn
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 Thr Thr His Val Leu Thr Glu Ala Ala Ile Ala Gly Lys Lys Asp
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 Glu Leu Ile Gly Leu Lys Glu Asn Val Ile Leu Gly Arg Leu Ile
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 Pro Ala Gly Thr Gly Ser Asp Phe Val Arg Phe Thr Gln Val Val
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<220>
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Asp Val Pro Pro Glu Lys Arg Glu Asn Val Gly Ile Gln Ala Ala Phe
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Lys Glu Thr Phe Pro Ile Glu Glu Gly Asp Lys Gly Lys Gly Gly Leu
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Val Leu Asp Phe Leu Glu Tyr Arg Ile Gly Asp Pro Pro Phe Ser Gln
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Asp Glu Cys Arg Glu Lys Asp Leu Thr Tyr Gln Ala Pro Leu Tyr Ala
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Arg Leu Gln Leu Ile His Lys Asp Thr Gly Leu Ile Lys Glu Asp Glu
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Val Phe Leu Gly His Leu Pro Leu Met Thr Glu Asp Gly Ser Phe Ile
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Ile Asn Gly Ala Asp Arg Val Ile Val Ser Gln Ile His Arg Ser Pro
130     135     140

Gly Val Tyr Phe Thr Pro Asp Pro Ala Arg Pro Gly Arg Tyr Ile Ala
145     150     155     160

Ser Ile Ile Pro Leu Pro Lys Arg Gly Pro Trp Ile Asp Leu Glu Val
165     170     175

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Glu Ala Ser Gly Val Val Thr Met Lys Val Asn Lys Arg Lys Phe Pro
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 Leu Val Leu Leu Leu Arg Val Leu Gly Tyr Asp Gln Glu Thr Leu Val
 195 200 205
 Arg Glu Leu Ser Ala Tyr Gly Asp Leu Val Gln Gly Leu Leu Asp Glu
 210 215 220
 Ala Val Leu Ala Met Arg Pro Glu Glu Ala Met Val Arg Leu Phe Thr
 225 230 235 240
 Leu Leu Arg Pro Gly Asp Pro Pro Lys Lys Asp Lys Ala Leu Ala Tyr
 245 250 255
 Leu Phe Gly Leu Leu Ala Asp Pro Lys Arg Tyr Asp Leu Gly Glu Ala
 260 265 270
 Gly Arg Tyr Lys Ala Glu Glu Lys Leu Gly Val Gly Leu Ser Gly Arg
 275 280 285
 Thr Leu Val Arg Phe Glu Asp Gly Glu Phe Lys Asp Glu Val Phe Leu
 290 295 300
 Pro Thr Leu Arg Tyr Leu Phe Ala Leu Thr Ala Gly Val Pro Gly His
 305 310 315 320
 Glu Val Asp Asp Ile Asp His Leu Gly Asn Arg Arg Ile Arg Thr Val
 325 330 335
 Gly Glu Leu Met Ala Asp Gln Phe Arg Val Gly Leu Ala Arg Leu Ala
 340 345 350
 Arg Gly Val Arg Glu Arg Met Val Met Gly Ser Pro Asp Thr Leu Thr
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 Pro Ala Lys Leu Val Asn Ser Arg Pro Leu Glu Ala Ala Leu Arg Glu
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 Phe Phe Ser Arg Ser Gln Leu Ser Gln Phe Lys Asp Glu Thr Asn Pro
 385 390 395 400
 Leu Ser Ser Leu Arg His Lys Arg Arg Ile Ser Ala Leu Gly Pro Gly
 405 410 415
 Gly Leu Thr Arg Glu Arg Ala Gly Phe Asp Val Arg Asp Val His Arg
 420 425 430
 Thr His Tyr Gly Arg Ile Cys Pro Val Glu Thr Pro Glu Gly Ala Asn
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Ile Gly Leu Ile Thr Ser Leu Ala Ala Tyr Ala Arg Val Asp Ala Leu
450 455 460

Gly Phe Ile Arg Thr Pro Tyr Arg Arg Val Lys Asn Gly Val Val Thr
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Glu Glu Val Val Tyr Met Thr Ala Ser Glu Glu Asp Arg Tyr Thr Ile
485 490 495

Ala Gln Ala Asn Thr Pro Leu Glu Gly Asp Arg Ile Ala Thr Asp Arg
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Val Val Ala Arg Arg Arg Gly Glu Pro Val Ile Val Ala Pro Glu Glu
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Val Glu Phe Met Asp Val Ser Pro Lys Gln Val Phe Ser Leu Asn Thr
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Asn Leu Ile Pro Phe Leu Glu His Asp Asp Ala Asn Arg Ala Leu Met
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Gly Ser Asn Met Gln Thr Gln Ala Val Pro Leu Ile Arg Ala Gln Ala
565 570 575

Pro Val Val Met Thr Gly Leu Glu Glu Arg Val Val Arg Asp Ser Leu
580 585 590

Ala Ala Leu Tyr Ala Glu Glu Asp Gly Glu Val Val Lys Val Asp Gly
595 600 605

Thr Arg Ile Ala Val Arg Tyr Glu Asp Gly Arg Leu Val Glu His Pro
610 615 620

Leu Arg Arg Tyr Ala Arg Ser Asn Gln Gly Thr Ala Phe Asp Gln Arg
625 630 635 640

Pro Arg Val Arg Val Gly Gln Arg Val Lys Lys Gly Asp Leu Leu Ala
645 650 655

Asp Gly Pro Ala Ser Glu Glu Gly Phe Leu Ala Leu Gly Gln Asn Val
660 665 670

Leu Val Ala Ile Met Pro Phe Asp Gly Tyr Asn Phe Glu Asp Ala Ile
675 680 685

Val Ile Ser Glu Glu Leu Xaa Xaa Arg Asp Phe Tyr Thr Ser Ile His
690 695 700

Ile Glu Arg Tyr Glu Ile Glu Ala Arg Asp Thr Lys Leu Gly Pro Glu
705 710 715 720

Arg Ile Thr Arg Asp Ile Pro His Leu Ser Glu Ala Ala Leu Arg Asp

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Leu	Gly	Gln	Arg	Tyr	Ile	Ser	Pro	Val	Phe	Asp	Gly	Ala	Thr	Glu	Pro				
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Glu	Ile	Lys	Glu	Leu	Leu	Ala	Glu	Ala	Phe	Asn	Leu	Tyr	Phe	Gly	Lys				
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Arg	Gln	Gly	Glu	Gly	Phe	Gly	Val	Asp	Lys	Arg	Glu	Lys	Glu	Val	Leu				
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Ala	Arg	Ala	Glu	Lys	Leu	Gly	Leu	Val	Ser	Pro	Gly	Lys	Ser	Pro	Glu				
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Glu	Gln	Leu	Lys	Glu	Leu	Phe	Asp	Leu	Gly	Lys	Val	Val	Leu	Tyr	Asp				
				965					970					975					
Gly	Arg	Thr	Gly	Glu	Pro	Phe	Glu	Gly	Pro	Ile	Val	Val	Gly	Gln	Met				
			980					985						990					
Phe	Ile	Met	Lys	Leu	Tyr	His	Met	Val	Glu	Asp	Lys	Met	His	Ala	Arg				
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Ser Thr Gly Pro Tyr Ser Leu Ile Thr Gln Gln Pro Leu Gly Gly
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Lys Ala Gln Phe Gly Gly Gln Arg Phe Gly Glu Met Glu Val Trp
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Ala Leu Glu Ala Tyr Gly Ala Ala His Thr Leu Gln Glu Met Leu
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Thr Ile Lys Ser Asp Asp Ile Glu Gly Arg Asn Ala Ala Tyr Gln
1055 1060 1065

Ala Ile Ile Lys Gly Glu Asp Val Pro Glu Pro Ser Val Pro Glu
1070 1075 1080

Ser Phe Arg Val Leu Val Lys Glu Leu Gln Ala Leu Ala Leu Asp
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Val Gln Thr Leu Asp Glu Lys Asp Asn Pro Val Asp Ile Phe Glu
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Gly Leu Ala Ser Lys Arg
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35 40 45

Pro Gly Thr Ala Val Thr Ser Val Tyr Ile Glu Asp Val Leu His Glu
50 55 60

Phe Ser Thr Ile Pro Gly Val Lys Glu Asp Val Val Glu Ile Ile Leu
65 70 75 80

Asn Leu Lys Glu Leu Val Val Arg Phe Leu Asp Pro Arg Trp Arg Thr
85 90 95

Thr Leu Ile Leu Arg Ala Glu Gly Pro Lys Glu Val Arg Ala Val Asp
100 105 110

Phe Thr Pro Ser Ala Asp Val Glu Ile Met Asn Pro Asp Leu His Ile
115 120 125

Ala Thr Leu Glu Glu Gly Gly Lys Leu Tyr Met Glu Val Arg Val Asp
130 135 140

Arg Gly Val Gly Tyr Val Pro Ala Glu Arg His Gly Ile Lys Asp Arg
145 150 155 160

Ile Asn Ala Ile Pro Val Asp Ala Ile Phe Ser Pro Val Arg Arg Val
165 170 175

Ala Phe Gln Val Glu Asp Thr Arg Leu Gly Gln Arg Thr Asp Leu Asp
180 185 190

Lys Leu Thr Leu Arg Ile Trp Thr Asp Gly Ser Val Thr Pro Leu Glu
195 200 205

Ala Leu Asn Gln Ala Val Ala Ile Leu Lys Glu His Leu Asn Tyr Phe
210 215 220

Ala Asn Pro Glu Ala Ser Leu Leu Pro Thr Pro Glu Val Ser Lys Gly
225 230 235 240

Glu Lys Arg Glu Ser Ala Glu Glu Asp Leu Asp Leu Pro Leu Glu Glu
245 250 255

Leu Gly Leu Ser Thr Arg Val Leu His Ser Leu Lys Glu Glu Gly Ile
260 265 270

Glu Ser Val Arg Ala Leu Leu Ala Leu Asn Leu Lys Asp Leu Arg Asn
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Ile Pro Gly Ile Gly Glu Arg Ser Leu Glu Glu Ile Arg Gln Ala Leu
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Ala Lys Lys Gly Phe Thr Leu Lys Glu
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35 40 45

Arg Thr Leu Glu Gly Leu Tyr Asp Asp Pro Asn Ala Val Thr Trp Ala
50 55 60

Met Lys Glu Leu Leu Thr Gly Arg Leu Phe Phe Gly Glu Asn Leu Val
65 70 75 80

Pro Glu Asp Arg Leu Gln Lys Glu Met Glu Arg Leu Tyr Pro Thr Glu
85 90 95

Glu Glu Ala